

# CLAIMS

1. A contactless IC media, characterized in that a contactless IC module having a recording area for recording computer readable digital information therein is embedded in  
5 a sheet-shaped medium of a given configuration, and a sticking member which is not separable after being adhered exists on at least one surface portion of the sheet-shaped medium.

2. A contactless IC media, characterized in that a contactless IC module having a recording area for recording  
10 computer readable digital information therein is embedded in a sheet-shaped medium of a given configuration, and a sticking member which can be again adhered after being separated exists on at least one surface portion of the sheet-shaped medium.

3. The contactless IC media as claimed in claim 1,  
15 characterized in that a plurality of contactless IC modules are embedded in one sheet-shaped medium, and the respective contactless IC modules and the respective regions including portions at which the sticking members exist can be cut out in specific configurations.

20 4. A contactless IC media where a contactless IC module having a recoding region is embedded in a sheet-shaped medium of a given configuration, characterized in that:

information visible by a human is described on a surface portion of said sheet-shaped medium;

25 mechanically readable digital information including the contents corresponding to said information is recorded on said recording region; and

a sticking member for sticking the sheet-shaped medium on a position where a given digital information reading device can read said digital information is fixed onto a rear surface of said sheet-shaped medium.

5           5.     A contactless IC media, characterized in that a contactless IC module having a recording region for recording at least digital information thereon is embedded in a stick-shaped medium having a structure which can be installed in a stick-shaped housing.

10           6.     A contactless IC media of a solid type born by a media bearing member, characterized by comprising a solid-type module medium having a given configuration in which a contactless IC module having a recording region is embedded, and in that  
15     an engagement mechanism that allows the engagement and disengagement of said solid type module medium with respect to said media bearing member by only displacing said engagement mechanism is integral with said solid type module medium.

*A*  
*A*  
20           7.     The contactless IC media as claimed in claim 1 or ~~2~~, wherein an electrically conductive member for being rendered conductive to a contact of an external electronic circuit is disposed on a surface portion of said contactless IC module, and a contact type IC mounted card is formed by allowing a recess of a card medium having the same configuration as that of said media bearing member to be born by said media bearing member.

25           8.     A contactless reader/writer comprising:  
a media bearing member for bearing a contactless IC media having a recording region;

a radio transceiver circuit having an antenna; and  
a control circuit for controlling the read and write of  
digital information with respect to both of the recording regions  
of a contactless IC media which is born by said media bearing  
5 member and an external contactless IC media having a recording  
region within a coverage of said antenna through said radio  
transceiver circuit.

9. The contactless reader/writer as claimed in claim  
8, characterized in that said antenna is embedded in a housing  
10 part positioned between said born contactless IC media and said  
external contactless IC media.

10. A contactless reader/writer, comprising:  
a media bearing member for bearing a contactless IC media  
having a recording region;

15 a first radio transceiver circuit that conducts  
communication with said contactless IC media born by said media  
bearing member through a first antenna in a contactless manner;

a second radio transceiver circuit that conducts  
communication with an external contactless IC media having a  
20 digital information recording region through a second antenna  
in a contactless manner; and

a control circuit that selectively conducts the read  
control and the write control of the digital information with  
respect to the recording region of said contactless IC media  
25 or said external contactless IC media through said first radio  
transceiver circuit or said second radio transceiver circuit.

11. A contactless reader/writer comprising:

a media bearing member which is capable of bearing a plurality of contactless IC media each having a recording region at the same time;

a radio transceiver circuit having an antenna; and

5 a control circuit that selectively conducts the read control and the write control of digital formation with respect to any recording region of said plurality of contactless IC media born by said media bearing member through said radio transceiver circuit.

10 12. A contactless reader/writer comprising:

a media bearing member which is capable of bearing a plurality of contactless IC media each having a recording region;

a plurality of radio transceiver circuits each having an antenna which operate under different conditions, respectively;

15 and

a control circuit that selectively conducts the read control and the write control of digital information with respect to the recording region of a contactless IC media conforming to the operating condition among said plurality of contactless IC media born by said media bearing member through said plurality of radio transceiver circuits.

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13. A contactless reader/writer, characterized by comprising:

a movable media bearing member which is capable of bearing

25 a plurality of contactless IC media each having a digital information recording region on the same plane at the same time;

a radio transceiver circuit having an antenna disposed

at a specific position which is in parallel with said media bearing member; and

a displacement mechanism that displaces said media bearing member on said plane so that a specific one of said plurality  
5 of contactless IC media approaches said specific position;

wherein the digital information is received and transmitted between said specific contactless IC media and said antenna.

14. A contactless reader/writer, characterized by  
10 comprising:

a media bearing member which is capable of bearing a plurality of contactless IC media each having a digital information recording region at the same time;

a read/write mechanism bearing member on which a media  
15 read/write mechanism including an antenna and a radio transceiver circuit is mounted; and

a displacement mechanism that displaces said read/write mechanism bearing member so that a specific one of said plurality of contactless IC media approaches said antenna;

20 wherein the digital information is received and transmitted with respect to said specific contactless IC media through said antenna.

15. The contactless reader/writer as claimed in claim  
13 ~~or 14~~, characterized in that said media bearing member includes  
25 a plate-shaped holder which is capable of bearing said plurality of contactless IC media at given intervals at the same time; and

in that said displacement mechanism brings said specific contactless IC media in close contact with said antenna.

16. The contactless reader/writer as claimed in ~~any one~~ <sup>claim 8</sup> ~~of claims 1 to 15~~, characterized in that the same function as  
5 a function given to said contactless IC media is realized on the basis of the digital information recorded on said born contactless IC media.

17. The contactless reader/writer as claimed in claim 16, characterized by further comprising information processing  
10 means for executing information processing on the basis of the digital information read through said control circuit;

wherein the information processing result by said information processing means is recorded on said specific contactless IC media from which the digital information has been  
15 read.

18. The contactless reader/writer as claimed in claim 16, characterized in that said contactless IC media is accommodated in a card medium used in an information processing device on which the card reader/writer is mounted.

20 19. A portable communication device on which a display is mounted, characterized by comprising:

a media bearing member for interchangeably bearing a contactless IC media having a recording region;

25 a radio transceiver circuit including an antenna embedded in a device housing;

a control circuit that conducts the read control and the write control of digital information with respect to both of

recording regions of said contactless IC media born by said media bearing member and an external contactless IC media disposed within a coverage of said antenna; and

information processing means that executes information  
5 processing on the basis of said read digital information,  
displays the result information of the information processing  
on said display, and records the result information on the  
recording region of said born contactless IC media or said  
external contactless IC media through said control circuit.

10 20. The portable communication device as claimed in  
claim 19, characterized in that said control circuit selectively  
receives the digital information originated from a plurality  
of external contactless IC modules and stores the received  
digital information on said born contactless IC media.

15 21. A portable communication device on which a display  
and a sound producing mechanism are mounted, characterized by  
comprising:

a single or a plurality of contactless IC media on which  
sound source data and image data outputted in association with  
20 the sound source data are recorded;

a media bearing member that interchangeably bears a single  
or a plurality of contactless IC media;

a radio transceiver circuit having a housing embedded  
antenna;

25 a control circuit that reads the sound source data and  
the image data from any recording region of said contactless  
IC media born by said media bearing member and said external

contactless IC media within the coverage of said antenna; and

information processing means having a sound source controller that permits said sound producing mechanism to reproduce a sound on the basis of said read sound source data  
5 and a display controller that permits said display to display an image on the basis of said read image data.

22. A portable communication device drivable by a battery, characterized by comprising:

a coil for receiving an electric power component from the  
10 external in a contactless manner; and

a charging circuit that converts an electric power component received through said coil into a charging electric power of a constant value and charges said battery by using the converted charging electric power.

15 23. An information transmission system, characterized by comprising:

a portable communication device including a media bearing member that interchangeably bears a single or a plurality of contactless IC media on which digital information is recorded,  
20 a radio transceiver circuit having an antenna embedded in a device housing, a control circuit that reads the digital information from the recording region of said contactless IC media born by said media bearing member through said radio transceiver circuit, and means for reproducing the read digital information; and

25 a media issuance device that records the digital information corresponding to a given value information on said contactless IC media and issues the digital information;



wherein the kind of the digital information to be recorded on said contactless IC media can be arbitrarily selected in accordance with the value information.

24. The information transmission system as claimed in  
5 claim 23, characterized in that said media issuance device periodically updates the digital information corresponding to the same value information.

25. The information transmission system as claimed in  
10 claim 23, characterized in that the digital information is periodical publication article information including letter data.

26. The information transmission system as claimed in  
claim 23, characterized in that the digital information is digital contents.

15 27. An information transmission system, characterized by comprising:

a contactless IC media on a surface portion of which guide information visible by a person is described and in an inner recording region of which mechanically readable digital  
20 information representative of the contents corresponding to the guide information is recorded; and

a portable communication device including a radio transceiver circuit having a housing embedded type antenna, a control circuit that reads the digital information from said  
25 contactless IC media through said radio transceiver circuit, and means for reproducing the read digital information;

wherein said contactless IC media are dispersed at

a plurality of appropriate locations, respectively.

28. The information transmission system as claimed in claim 27, characterized in that said plurality of contactless IC media are embedded in the same guide panel on which the guide information is described.

29. An information transmission system, characterized by comprising:

a plurality of portable communication devices, each including: a media bearing member that interchangeably bears a single or a plurality of contactless IC media, a radio transceiver circuit having a housing embedded type antenna, and a control circuit that conducts the read control and the write control of the digital information with respect to both of recording regions of said contactless IC media born by said media bearing member and an external contactless IC media existing within a coverage of said antenna through said radio transceiver circuit;

wherein each of said portable communication devices can mutually interchange the recorded information of the contactless IC media with another portable communication device.

30. The information transmission system as claimed in ~~any one of claims 23 to 29~~ <sup>CLAIM 23</sup>, characterized in that said portable communication device is a cellular phone radio.